

Application No.: 10/091,080

Case No.: 57080US002

AMENDMENT TO THE CLAIMS

The following listing of claims will replace all prior versions of claims in the application:

1. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500, an Amine Value, and an AV of greater than 4.5, wherein $AV = 1000 * [(Amine\ Value) / (Mw)]$.
2. (original) The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of greater than 1000.
3. (original) The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of between about 3000 and about 4000.
4. (original) The abrasive article of claim 3 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having an AV of between about 5 and about 7.5.
5. (original) The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of between about 8000 and about 9000.

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6. (original) The abrasive article of claim 5 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having an AV of between about 12 and about 13.

7. (original) The abrasive article of claim 1 wherein the abrasive coating comprises at least about 30% by weight of a superabrasive particle.

8. (original) The abrasive article of claim 7 wherein the abrasive coating comprises between about 30% by weight and about 80% by weight of a superabrasive particle.

9. (canceled)

10. (previously presented) The abrasive article of claim 1 wherein the abrasive coating comprises a binder.

11. (original) The abrasive article of claim 1 wherein the superabrasive particle is diamond.

12. (original) The abrasive article of claim 11 wherein the diamond has a particle size less than 2 micrometers.

13. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising

superabrasive particles;

a continuous phase comprising a reactive curing binder precursor ; and

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a dispersant comprising a polymer having a molecular weight (Mw) of greater than 10,000, an Amine Value, and an AV of greater than 1.0, wherein $AV=1000*[(Amine\ Value)/(Mw)]$.

14. (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 100,000, an Amine Value, and an AV of greater than 0, wherein $AV=1000*[(Amine\ Value)/(Mw)]$.
15. (original) The abrasive article of claim 14 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of greater than 150,000.
16. (previously presented) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500 and a measurable total Amine Value.
17. (currently amended) A method of manufacturing an abrasive article comprising

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coating an abrasive slurry comprising superabrasive particles, a continuous phase comprising a reactive curing binder precursor, and a dispersant comprising a polymer having an average molecular weight (Mw) of greater than 500, an Amine Value, and an AV of greater than 4.5 onto a backing, wherein $AV=1000*[(Amine\ Value)/(Mw)]$, wherein the superabrasive particles comprise at least 20% dry weight of all solids in the slurry; and solidifying the abrasive slurry.

18. (original) The method of claim 17 wherein the abrasive slurry is cured.

19 (currently amended) An abrasive article comprising
a backing having a major surface; and
an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising comprises
superabrasive particles;
a continuous phase comprising a reactive curing binder precursor; and
a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500, an Amine Value, and an AV of greater than 4.5, wherein $AV=1000*[(Amine\ Value)/(Mw)]$.